

WHAT IS CLAIMED IS:

1. A communication system for selecting a PLMN (Public Land Mobile Network), comprising:

an MS (Mobile Station) for transmitting an MIN (Mobile Identification
5 Number) message, an ESN (Electronic Serial Number) message and a location
update request signal containing location information for registering the location of
the MS and for searching for the PLMN on the basis of an HPLMN search period
value corresponding to the location update request signal;

an MSC (Mobile Switching Center) for performing an authentication
10 procedure for the MS transmitting the location update request signal and extracting
the location information from the location update request signal;

a VLR (Visitor Location Register) for storing subscriber data of the MS
provided from outside the MS and registering a location of the MS; and

an HLR (Home Location Register) for updating the location information of
15 the MS extracted from the MSC, variably setting a search period value at a time of
searching for an HPLMN or higher-priority PLMN on the basis of the location
information of the MS and transmitting the set search period value to the MS.

2. The communication system as set forth in claim 1, wherein the HLR sets
the search period value to a value larger than a set threshold value if the HLR
20 determines that the HPLMN and PLMN do not exist in a predetermined range, on
the basis of the location information; and

wherein the HLR sets the search period value to a value smaller than a set
threshold value if the HLR determines that at least one of the HPLMN and PLMN

exists in a predetermined range, on the basis of the location information.

3. The communication system as set forth in claim 1, wherein the HLR sets the search period value to “0” if the HLR determines that the HPLMN and PLMN do not exist in a predetermined range, on the basis of the location information.

5 4. The communication system as set forth in claim 2, wherein the HLR newly sets the search period value when newly receiving the location information.

5. The communication system as set forth in claim 4, wherein the location information is geographic information on a map.

10 6. The communication system as set forth in claim 5, wherein the location information comprises latitude information and longitude information associated with the location of the MS.

7. The communication system as set forth in claim 1, wherein the subscriber data is information associated with corresponding service subscription using the MS.

15 8. The communication system as set forth in claim 1, wherein the HLR transmits the period value to the MS using an OTA (Over The Air) method.

9. A method for selecting a PLMN (Public Land Mobile Network) in an MS (Mobile Station) using a communication system, the communication system

including the MS, an MSC (Mobile Switching Center), a VLR (Visitor Location Register) and an HLR (Home Location Register), comprising the steps of:

a) transmitting subscriber identification information and authentication information for authenticating the MS according to a location update request signal
5 containing location information of the MS received from the MS;

b) if the location information is received from the MSC through an authentication procedure by the MSC, updating the location information and allowing the MS to request a previous VLR of the MS to release previously registered location information;

10 c) if the location information previously registered by the previous VLR is released, inserting subscriber data for the MS into the VLR; and

d) variably setting a search period value at a time of searching for an HPLMN or higher-priority PLMN on the basis of the location information of the MS and transmitting the set search period value to the MS.

15 10. The method as set forth in claim 9, wherein step d) comprises the steps of:

setting the search period value to a value larger than a set threshold value if it is determined that the HPLMN and PLMN do not exist in a predetermined range, on the basis of the location information; and

20 setting the search period value to a value smaller than a set threshold value if it is determined that at least one of the HPLMN and PLMN exists in a predetermined range, on the basis of the location information.

11. The method as set forth in claim 9, wherein step d) comprises the step of:
setting the search period value to “0” if it is determined that the HPLMN and
PLMN do not exist in a predetermined range, on the basis of the location
information.

5 12. The method as set forth in claim 10, wherein step d) comprises the step
of:

newly setting the search period value when the location information is newly
received.

10 13. The method as set forth in claim 12, wherein the location information is
geographic information on a map.

14. The method as set forth in claim 13, wherein the location information
comprises latitude information and longitude information associated with the
location of the MS.

15 15. The method as set forth in claim 9, wherein the subscriber data is
information associated with corresponding service subscription using the MS.

16. The method as set forth in claim 9, wherein step d) comprises the step of:
transmitting the period value to the MS using an OTA (Over The Air)
method.